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10/689,699	10/22/2003	Hiroshi Kainuma	TOC-0007	4633

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EXAMINER

WEINSTEIN, LEONARD J

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

12/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/689,699

Applicant(s)

KAINUMA ET AL.

Examiner

Leonard J. Weinstein

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2007.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4 and 5 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 2, 4 and 5 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is in response to the amendment of October 5, 2007. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

#### ***Continued Examination Under 37 CFR 1.114***

2. The request for a continued prosecution application (CPA) under 37 CFR 1.53(d) filed on [1] is acknowledged. 37 CFR 1.53(d)(1) was amended to provide that the CPA must be for a design patent and the prior application of the CPA must be a design application that is complete as defined by 37 CFR 1.51(b). See *Elimination of Continued Prosecution Application Practice as to Utility and Plant Patent Applications*, final rule, 68 *Fed. Reg.* 32376 (May 30, 2003), 1271 *Off. Gaz. Pat. Office* 143 (June 24, 2003). Since a CPA of this application is not permitted under 37 CFR 1.53(d)(1), the improper request for a CPA is being treated as a request for continued examination of this application under 37 CFR 1.114.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumagai et al. 6,250,600 in view of Umemura et al. US 2002/0098091. Kumagai discloses the following limitations as claimed including: a control valve for a variable capacity compressor 50 comprising a bellows main body 67, retained as a pressure sensing element in a bellows case 66 with an airtight structure, and transfers expansion and contraction of the bellows main body in response to a variation in inlet pressure 72 of a variable capacity compressor to a valve element 61 through a valve rod, 65 and 77, supported to be movable in a valve lifting direction from a valve housing 54 integral with said bellows case to thereby change a valve opening degree, a patch member, 69 of 71, is provided to a movable-side end portion of the bellows main body and is formed with a fitting recessed portion 78, a valve rod 59 being fitted to be able to float in the fitting recessed portion, one end portion, bottom portion of element 59, of a valve rod 59 housed in the fitting recessed portion 78 of a patch member 69 in a tiltable manner, and a compression coil spring 70 disposed between the patch member and a lower patch member 68 for supporting a fixed-side end portion of the bellows main body; and a bottom portion of the fitting recessed portion forming a stopper face portion 71a that can come in contact with a stopper face portion formed at a central portion 75 of the lower patch member. Kumagai discloses the claimed invention except for an the following limitation that is taught for control valve by Umemura wherein an end portion of a valve rod 41 is roundly or hemispherically shaped, as shown in figure for with the distal end of element 42, and wherein the fitting recessed portion is formed such that a patch member 68 can be tilted with respect to the valve rod 42 (Umemura - ¶0055). Modifying a valve rod such as Kumagai so that it has a

rounded surface at a distal end of a valve rod in contact with a patch member would substitute for a ball 77 of Kumagai while ensuring a force corresponding to the displacement of a bellows is reliably applied (Umemura - ¶0055). In addition a modification to Kumagai providing a valve rod with a rounded end surface would result in a reduction of parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a valve rod with a rounded end to reduce the number of components required to reliably apply the force generated by the displacement of a bellows (Umemura - ¶0055).

6. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi in view of Umemura et al. US 2002/0098091. Taguchi discloses all the limitations of the invention as claimed including: a control valve for a variable capacity compressor 7, comprising a bellows main body 77 retained as a pressure sensing element in a bellows case 57 with an airtight structure, and transfers expansion and contraction of the bellows main body in response to a variation in inlet pressure 83 of the variable capacity compressor to a valve element 67 through a valve rod 61 supported to be movable in a valve lifting direction from a valve housing 63 integral with the bellows case to thereby change a valve opening degree, a patch member, T shaped member connected to bottom of element 73 which forms a fitting recessed portion, is provided to a movable-side end portion of the bellows main body 77, a valve rod 81 being fitted to be able to float in the fitting recessed portion 73, one end portion, bottom portion of element 81, of a valve rod 81 housed in the fitting recessed portion 73 of a patch member 71 in a tiltable manner, and a compression coil spring 79 disposed between the patch member and a lower patch member, T shaped member attached to the bottom of bellows 77 main body, for supporting a fixed-side end portion; a contact end portion of a valve rod 81 in contact with the fitting recessed portion 73 in a substantially central position in the expanding/contracting

direction of the bellows main body; a fixed-side end portion of a bellows main body mounted to the lower patch member substantially in the same shape as the patch member with a lower T shaped member attached to bellows 77, a side face of the lower patch member supported on a support tube portion formed to stand from the bellows case 55, a stopper face portion formed at a central portion of the lower patch member, top-center area of lower T shaped member attached to bellows, supported on a support portion extending from an adjusting screw 75 member. Taguchi discloses the claimed invention except for an the following limitation that is taught for control valve by Umemura wherein an end portion of a valve rod 41 is roundly or hemispherically shaped, as shown in figure for with the distal end of element 42, and wherein the fitting recessed portion is formed such that a patch member 68 can be tilted with respect to the valve rod 42 (Umemura - ¶0055). Modifying a valve rod such as Taguchi so that it has a rounded surface at a distal end of a valve rod in contact with a patch member would ensure a force corresponding to the displacement of a bellows is reliably applied (Umemura - ¶0055). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a valve rod with a rounded end to in order to provide a control valve for a variable displacement compressor that reliably applies a force generated by the displacement of a bellows (Umemura - ¶0055).

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-2 and 4-5 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. Weinstein whose telephone number is (571) 272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Karmer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
LJW

  
12/22/07